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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/806,421

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EXAMINER

THOMPSON, CAMIE S

ART UNIT

PAPER NUMBER

1794

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/806,421	<b>Applicant(s)</b> NARUSE ET AL.	
	<b>Examiner</b> Camie S. Thompson	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed May 28, 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Applicant's amendment and accompanying remarks filed May 28, 2008 are acknowledged.
2. Examiner acknowledges applicant's submission of the Declaration filed May 28, 2008.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 4 and 7-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Sawai et al., U.S. Patent Number 6,638,645.

Sawai discloses a film for use in an organic EL device. The reference discloses a laminated film that comprises a substrate (base film) made from PET and a gas barrier layer made from organic inorganic hybrid materials (see column 2, lines 45-62). Figure 2 of the reference shows that the gas barrier layer is between two base material films. Also, Sawai discloses that the organic inorganic hybrid material layer has a thickness of 1 micron and that the substrate (base) layer has a thickness of 12 microns. Tables 1 and 2 of the reference disclose the oxygen permeability of the organic inorganic hybrid layer that corresponds to the required oxygen permeability for the gas barrier layer of the present claims. The reference discloses in column 5, lines 1-10 that the

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organic inorganic hybrid layer comprises an alkoxy-group containing acrylic resin, which has a hydroxyl forming group. The Sawai reference does not disclose that the gas barrier layer is formed by the sol-gel method. Claim 1 is a product-by-process claim. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See MPEP 2113. Both the reference and the present claims comprise a film for a display device wherein the film comprises a base material film and at least one gas barrier layer wherein the gas barrier layer is an organic inorganic hybrid layer. The manner in which the gas barrier layer is formed does not make it a different product from the recited claims.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawai et al., U.S. Patent Number 6,638,645 in view of Kotani et al., U.S. Patent Number 5,766,751.

Sawai discloses a film for use in an organic EL device. The reference discloses a laminated film that comprises a substrate (base film) made from PET and a gas barrier layer made from organic

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inorganic hybrid materials (see column 2, lines 45-62). Figure 2 of the reference shows that the gas barrier layer is between two base material films. Also, Sawai discloses that the organic inorganic hybrid material layer has a thickness of 1 micron and that the substrate (base) layer has a thickness of 12 microns. Tables 1 and 2 of the reference disclose the oxygen permeability of the organic inorganic hybrid layer that corresponds to the required oxygen permeability for the gas barrier layer of the present claims. The reference discloses in column 5, lines 1-10 that the organic inorganic hybrid layer comprises an alkoxy-group containing acrylic resin, which has a hydroxyl forming group. The Sawai reference does not disclose that the gas barrier layer is formed by the sol-gel method. Claim 1 is a product-by-process claim. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See MPEP 2113. Both the reference and the present claims comprises a film for a display device wherein the film comprises a base material film and at least one gas barrier layer wherein the gas barrier layer is an organic inorganic hybrid layer. The manner in which the gas barrier layer is formed does not make it a different product from the recited claims. Sawai does not disclose that the base material comprises a layered compound. Kotani discloses a laminate film comprising a layer comprising a substance having a gas barrier property and at least one layer which is disposed on the gas barrier substance layer and comprises a resin composition comprising a resin and an inorganic laminar (layered) compound (see column 3, lines 9-15). Additionally, the reference discloses that the base material (e.g. resin film) can be a

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resin such as a polyolefin-type resin such as polyethylene, ethylene-propylene copolymer or polyester-type resin. It is disclosed in column 19, lines 19-24 that the oxygen permeability measurement at 30 deg C, 60% RH was below  $0.1 \text{ cc/m}^2 \text{ day atm}$  for the laminate. A layered compound has strong Van der Waals forces due to atoms being strongly bonded together.

Therefore, it would have been obvious to one of ordinary skill in the art to have the base film of the Sawai reference is a layered compound in order to obtain strong Van der Waals forces for increased gas barrier properties.

7. Claims 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kotani et al., U.S. Patent Number 5,766,751.

Kotani discloses a laminate film comprising a layer comprising a substance having a gas barrier property and at least one layer which is disposed on the gas barrier substance layer and comprises a resin composition comprising a resin and an inorganic laminar (layered) compound (see column 3, lines 9-15). Additionally, the reference discloses that the base material (e.g. resin film) has a hydrogen bond forming resin. Column 13, lines 40-68 of the reference disclose that a metal or oxide can be used as a substance having a gas barrier property and that the process for forming the film of the metal or oxide can be by the sol-gel method. It is disclosed in column 19, lines 19-24 that the oxygen permeability measurement at 30 deg C, 60% RH was below  $0.1 \text{ cc/m}^2 \text{ day atm}$  for the laminate. Kotani discloses a solution that is microwaved to form the gas barrier laminate (see column 12, lines 38-58 and column 13, lines 1-12). Kotani does not disclose a metal alkoxide. However, the reference does disclose the use of a metal or an oxide. An oxide is generic and encompasses an alkoxide. Therefore, it would have been obvious to one

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of ordinary skill in the art to use a metal oxide in the Kotani reference in that it is encompassed by the generic oxide.

***Response to Arguments***

8. Applicant's arguments filed May 28, 2008 have been fully considered but they are not persuasive. Applicant argues that the Sawai reference does not disclose the gas-barrier layer as recited by the present claims. Additionally, applicant has provided a Declaration that discloses experiments to demonstrate that Sawai does not disclose a gas barrier film in which the difference between the oxygen transmission rate at 25 °C in a relative humidity of and an oxygen transmission rate at 25° C in relative humidity is within the range of  $1.0 \times 10^{-5}$  ml/m<sup>2</sup> day Pa. The present claims recite that the difference in oxygen transmission can be 0 as per instant claim 1. Although applicant has provided a declaration with experiments demonstrating the difference in oxygen transmission rates, the difference in oxygen transmission rates for the present claims can be 0. Additionally, present claim 1 is a product-by-process claim. Process limitations in a product claim are not given any patentable weight. Applicant has amended claim 1 to recite that the polymer contains a hydrogen bond forming group. The polymer listed in the Sawai reference is polychloroethylene (poly vinyl chloride). Polyvinyl chloride contains a hydrogen bond forming group within the monomer to form the polymer. Applicant claims in claim 1 that there does not have to be a difference in oxygen transmission rates. Applicant argues tht Kotani fails to teach or suggest improvement in deformation temperature. Applicant does not claim improvement of deformation temperature. Additionally, the improvement on a physical property is not given any patentable weight. Also, Kotani discloses the layered material. Applicant argues that Sawai does not disclose applying an electromagnetic wave. The Sawai reference was

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not used solely to reject the method claims. Kotani was brought in to demonstrate that the solution was heated by microwave. Applicant's arguments are not persuasive. The rejections are maintained.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (571) 272-1530. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano, can be reached at (571) 272-1398. The fax phone number for the Group is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished



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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Milton I. Cano/

Supervisory Patent Examiner, Art Unit 1794